

STORMS AND WEATHER WARNINGS.

EDWARD H. BOWIE, Supervising Forecaster.

Disturbance over Caribbean Sea.—The morning observation of the 26th from Kingston, Jamaica, reported a heavy swell from the south, cirrus clouds from the southwest, intermediate low clouds from the southeast, stratus clouds from the east, wind north but changeable, and barometer 29.84 inches. Moreover the observations received from ships by radio indicated disturbed conditions over the southwest Caribbean Sea. Consequently advices were issued at 10 a. m. to the effect that there were indications of a disturbance some distance southwest of Jamaica and moving northwest. Later information substantiated the first warning issued. The disturbance of moderate intensity moved west-northwestward, apparently crossed the north portion of Honduras, the southern portion of the Gulf of Honduras, extreme southern British Honduras, and finally broke up in the mountain regions of Guatemala, although its influence extended far west of that Republic, as might be inferred from the reports of excessive rains in the southern States of Mexico and strong northerly winds from the vicinity of Vera Cruz, Mexico.

WASHINGTON FORECAST DISTRICT.

On the morning of the 7th when an area of low barometer was central over the region of the Great Lakes, southwest storm warnings were ordered raised on the Atlantic coast at and north of Delaware Breakwater. This disturbance moved eastward attended by squalls and strong winds and passed off the coast on the 8th. On the 18th small-craft warnings were displayed at and north of Atlantic City, to warn of the coming of thunderstorms and squalls of the afternoon and night of that day, while on the 25th southwest storm warnings were displayed along the Atlantic coast at and north of Delaware Breakwater. The morning of the 25th an area of low barometric pressure had its center north of the region of the Great Lakes, whence it moved down the St. Lawrence Valley. It was attended by fresh and strong shifting winds and thunderstorms along the coast where warnings were displayed. No warnings of unusual temperatures were issued during the month.

CHICAGO FORECAST DISTRICT.

The month was uneventful in the Chicago forecast district so far as special warnings were concerned, no general warnings of any character being issued.

Small-craft warnings were issued to most of the Lake stations on the 7th, and an advisory message in the afternoon of the 28th, to points on Lakes Michigan and Huron.

Fire-weather forecasts for western Montana were continued during the month to the district forester at Missoula, and they were begun to the State forester at St. Paul, Minn., August 19, for the timber regions in north-eastern Minnesota.

The special forecasts which had been sent to Sturgeon Bay, Wis., since May 11, 1922, for the fruit interests, especially in connection with spraying, were discontinued on August 23, 1922.—*H. J. Cor.*

NEW ORLEANS FORECAST DISTRICT.

Moderate weather conditions prevailed in the west Gulf region during August, 1922. No storm warnings

were issued and no storms occurred without warning.—*I. M. Cline.*

DENVER FORECAST DISTRICT.

The low pressures that are usual in midsummer prevailed in Arizona and on most of the Rocky Mountain plateau, only occasional areas of high pressure of feeble intensity crossing the Rocky Mountain region. These conditions were attended by frequent showers and thunderstorms, especially in the northern and eastern portions of the district. The temperature was generally above normal in all four States and was especially high in Colorado and New Mexico.

On the evening of the 18th, when a narrow trough of low pressure extended from British Columbia southward to Arizona, and at a time when the fire hazard was reported to be great in portions of Utah, the following fire-weather warning was issued: "Fresh to strong shifting winds and occasional thunderstorms indicated for Utah Saturday." Showers and thunderstorms occurred over the State on the following day, with fresh winds in southern Utah. During the remainder of the month showers were frequent and the amounts of precipitation sufficient to reduce materially the danger from fire. No other warnings were prepared.—*J. M. Sherier.*

SAN FRANCISCO FORECAST DISTRICT.

No striking abnormalities in pressure took place during August in the San Francisco forecast district. The barometer was relatively low over Alaska until the 24th, after which it was higher than usual. Showers occurred in the North Pacific States during 10–12th and on the last two days of the month. Rain fell locally on a few other occasions, but in no great amounts, except in Nevada, where a "cloudburst" flooded the residential section of the town of Ely and did damage estimated at \$100,000. No lives were lost.

Fire-weather warnings were issued on the 17th for the entire district except in southern California. The expected hot weather with dry northerly winds occurred, but lasted only for a day and a half, when it was thought they would continue for about three days. Special daily forecasts were sent on the 7th to the supervisor of Wenatchee Forest, in Washington, to aid him in directing the movements of men employed in putting out a large forest fire. They were continued for four days, when he was notified that showers would occur. The showers came as predicted and the forecasts were then discontinued.

No other warnings were needed nor were any issued during the month.—*E. A. Beals.*

RIVERS AND FLOODS.

By H. C. FRANKENFIELD, Meteorologist.

There were no floods during the month, and most rivers fell steadily, marking the beginning of the normal low-water season that usually reaches its culmination during October and early November.

The Santee River was above the flood stage for a few days, but as this river had been near or above flood stage since the preceding February, no crops had been planted in the lowlands, no cattle were grazing, and consequently there were no losses.

Flood stages during August, 1922.

River and station.	Flood stage.	Above flood stages—dates.		Crest.	
		From—	To—	Stage.	Date.
ATLANTIC DRAINAGE.					
<i>Santee:</i>	<i>Feet.</i>			<i>Feet.</i>	
Rimini, S. C.	12	12	14	13.1	13
Do.	12	17	21	12.8	19
Ferguson, S. C.	12	(1)	1	12.0	1
Do.	12	13	24	12.7	1

¹ Continued from July.**MEAN LAKE LEVELS DURING AUGUST, 1922.**

By UNITED STATES LAKE SURVEY.

[Detroit, Mich., September 5, 1922.]

The following data are reported in the "Notice to Mariners" of the above date:

Data.	Lakes. ¹			
	Superior.	Michigan and Huron.	Erie.	Ontario.
Mean level during August, 1922:	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>	<i>Feet.</i>
Above mean sea level at New York.....	602.63	580.56	572.50	246.56
Above or below—				
Mean stage of July, 1922.....	+0.14	-0.11	-0.25	-0.36
Mean stage of August, 1921.....	-0.14	+0.38	+0.01	+0.63
Average stage for August, last 10 years.....	-0.09	-0.40	-0.28	-0.62
Highest recorded August stage.....	-1.30	-2.95	-1.61	-1.70
Lowest recorded August stage.....	+1.03	+0.71	+1.12	+2.21
Average relation of the August level to:				
July level.....		-0.10	-0.30	-0.30
September level.....		+0.20	+0.30	+0.40

¹ Lake St. Clair's level: In August, 575.33 feet.**EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS: AUGUST, 1922.**

By J. WARREN SMITH, Meteorologist.

The first half of August, 1922, was mostly cool for the season from the Mississippi Valley eastward, which somewhat retarded the ripening of summer crops, but the latter half was much warmer and crops matured rapidly. Rainfall was very unevenly distributed geographically, the amounts being scanty in much of the interior and the drought from Oklahoma southward and southwestward was intensified and had become severe at the close of the month. The lack of moisture that had prevailed in the far Northwestern States was largely relieved by copious rainfall near the middle of the month and beneficial rains were received in most sections from the Ohio Valley northward and northeastward during the latter part.

The month on the whole was generally favorable for harvesting small grains in the later districts and for threshing winter wheat, while late spring wheat was benefited early in the month by the showers that were received in the northern Rocky Mountain areas. Considerable rust was reported in spring wheat in eastern North Dakota, but it developed too late to cause widespread damage. Preparation of soil for the seeding of winter grain made rather slow progress in much of the interior of the country because of hard, dry soil, but conditions were improved in the lower Missouri and parts of the upper Mississippi Valleys, as well as in portions of the Great Plains area, by rainfall about the 20th.

The first half of the month was somewhat too cool for the best development of corn from the Lake region eastward and moisture was deficient during much of the month in some interior localities, particularly in parts of the Ohio Valley. The crop made good progress in most of the upper Mississippi Valley area and the late crop was favored in the Ohio Valley and eastern Missouri by the rains near the close of the month. The hot, dry weather was very unfavorable from Kansas southward, however, and late corn was severely damaged in that area. The crop matured rapidly during the last half of the month and at the close was mostly out of frost danger in the extreme northern Great Plains.

The weather was generally unfavorable for cotton in nearly all sections of the belt. The drought in the western cotton-growing States continued mostly unrelieved throughout the month and was accompanied during much of the time by extremely warm weather. Cotton made very good progress in limited areas where showers occurred, but on the whole general deterioration was reported in the western portion of the belt. There was less rainfall in the eastern portion than had been previously experienced, but it was rather too cool during much of the month, particularly during the latter part, with much cloudy weather. Picking and ginning advanced rapidly under favorable weather conditions and bolls opened fast, particularly in the western portion of the belt.

Grasses, truck, and miscellaneous crops were benefited by rainfall in the northeastern section of the country during the latter part of the month but it was too dry in most of the South, in much of the Great Plains area, and some other interior localities. Ranges were unfavorably affected by dry weather in the Southwest, except that conditions were fairly favorable in Arizona. At the close of the month stock were in very poor condition in most of New Mexico and only fair in much of western Texas.